



ORC

Offshore Racing Congress
World leader in rating technology

2020
ORC Club
Certificate

Rating Office

Estonian Yachting Union
Purje 8, maja 3
11911 Tallinn
Estonia



ESTONIAN
YACHTING
UNION

Certificate

Number **111/20**
Issued On **07/07/2020**
ORC Ref **03880000M5V**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default 625kg
Maximum **563kg**
Minimum* **422kg**
*when applied by the NoR and SI
Non Manual Pwr **No**

Special Scoring

ToD ToT
Non Spin GPH **661.2 0.9074**
Non Spin OSN **639.8 0.9378**

Sails Limitations

Headsails **5** Spinnakers **4**

Asymmetric on centerline

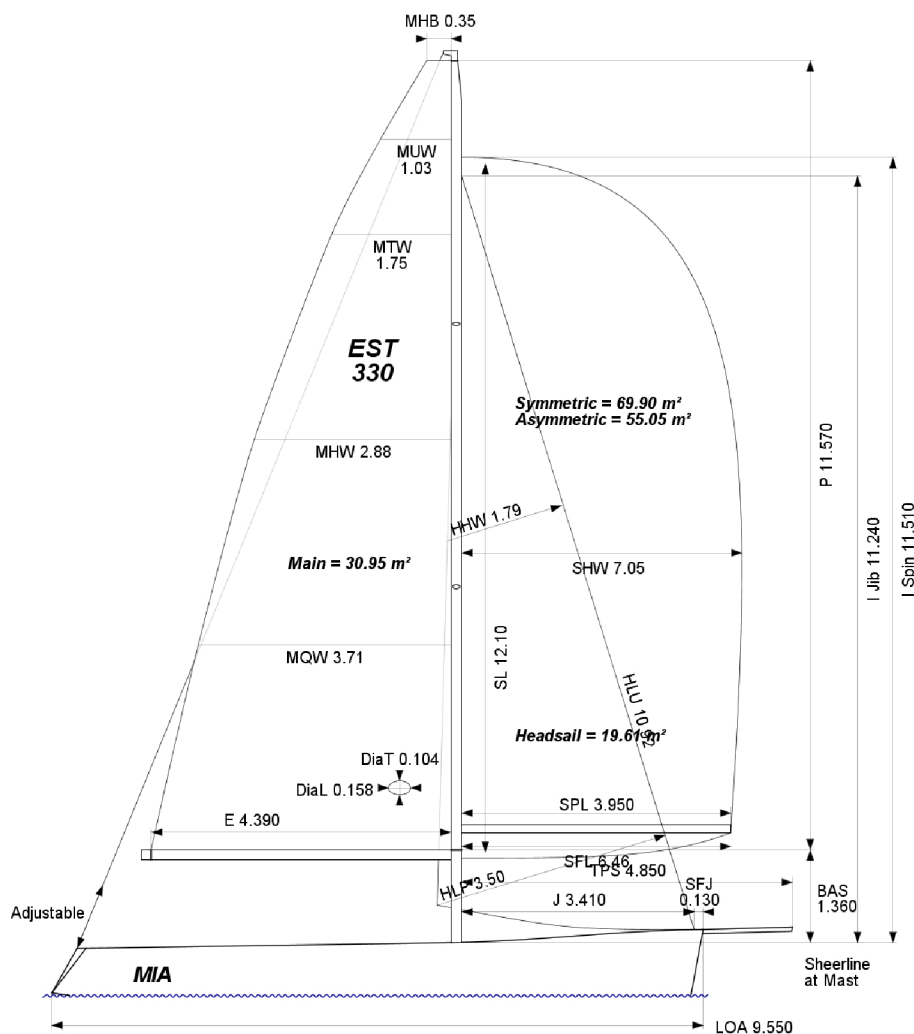
Spinnaker configuration
Symmetric: **Yes 69.90**
Asymmetric: **Yes 59.00**
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = 9.024

Stability (Estimated)

Limit Positive Stab.: **115.7°**
Stability Index: **112.5**



BOAT		GPH	HULL	
Name	MIA	617.8	Data File	EST330 LOA 9.550m
Sail Nr	EST 330		Offset File	GDSURP.BOF MB 2.984m
			Displacement	2,784kg Draft 2.081m
CLASS			IMS Division	Performance Dynamic All. 0.000%
			Plan Review	Construction Solid
			Fiber Rigging	No Aramid Core No
			Crew Arm Ex	Carbon Rudder No Light Stanchions
			IMSL	9.357m VCGD -0.150m Sink 14.68kg/mm
			RL	8.696m VCGM -0.187m WS 18.94m²
			LSM0	9.346m Displacement/Length ratio 3.4103
COMMENTS			Water Ballast	Trim Tab No
			BLR Index	0.0000
PROPELLER			CENTERBOARD	
			N/A	
Installation	Shaft exposed	PRD 0.410		
Type	Folding 2 blades	PBW 0.111		
		PIPA 0.0024		

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	601.3			676.3		
Time on Time	0.9978			0.9981		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	711.6	547.4	478.6	931.8	678.3	587.8
Time on Time	0.9486	1.2330	1.4104	0.7244	0.9951	1.1484

BOAT Name MIA Sail Nr EST 330 File EST330 Data in meters/kilograms										INCLINING TEST AND FREEBOARDS Inclining Test Enter VCG directly Flotation date 07/07/2020 SG 1.0234 VCGDe -0.150 FFM 0.963 FF 0.964 SFFP 0.200 FAM 0.691 FA 0.691 SAFFP 9.050 LCF from stem on CL / on sheer 5.329 / 5.529 Maximum beam station from stem 6.050 RM Measured 72.1kg·m RM Default 65.1kg·m Limit of positive stability / Stab.Index 115.7° / 112.5 Freeboard at mast at 3.540 0.778									
RIG Forestay Tension Aft Spreaders 2 Inner Stay None Fitted Runners/Checkstays 0 Carbon Mast No Jib Furler No Fiber Rigging No Main Furler No Non-Circular Rigging No Articulated Bowsprit No P 11.570 E 4.390 MDT1 0.104 MW 0.158 IG 11.240 J 3.410 MDL1 0.158 GO 0.173 ISP 11.510 SFJ 0.130 MDT2 0.077 BD 0.145 BAS 1.360 SPL 3.950 MDL2 0.098 MWT 94.00 FSD 0.000 TPS 4.850 TL 0.590 MCG 4.140										PROPELLER Installation Shaft exposed PRD 0.410 Type Folding 2 blades PBW 0.111 Twin Screw No PIPA 0.0024 PSA 0.110 PHL 0.110 ST3 0.082 ESL 0.820 PSD 0.025 ST1 0.016 ST4 0.047 PHD 0.050 ST2 0.075 ST5 0.167									
MAZZEN RIG AND SAILS N/A										MOVABLE BALLAST N/A									
COMMENTS										CENTERBOARD N/A									
SAILS INVENTORY																			
MAINSAIL (2)																			
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment								
4	0.35	1.03	1.75	2.88	3.71	30.95		01/07/2020	North sails	Unknown									
3a	0.32	1.04	1.71	2.86	3.71	30.80		30/06/2013	Quantum	Unknown									
HEADSAILS (4)																			
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment			
4a	0.07	0.54	0.99	1.79	2.63	3.50	10.92	103%	19.61		No		17/04/2020	Quantum	Unknow				
1	0.07	0.55	0.98	1.76	2.59	3.50	10.96	103%	19.50		No		17/04/2020		Unknow				
3	0.08	0.43	0.80	1.58	2.43	3.37	10.96	99%	17.95		No		17/04/2020		Unknow	JibTop			
5	0.08	0.43	0.79	1.60	2.50	3.37	10.10	99%	16.73	Y	No		02/07/2020		Unknow				
SYMMETRIC SPINNAKERS (3)																			
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment								
3	12.10	12.10	12.10	7.05	6.46	69.90		30/06/2013		Unknown									
4	12.03	12.03	12.03	6.90	6.70	68.78				Unknown									
2	10.60	10.60	10.60	5.97	5.73	52.32		22/06/2012		Unknown									
ASYMMETRIC SPINNAKERS (1)																			
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment							
1a	12.49	11.30	11.90	5.24	6.81	55.06	asy77				Unknown								



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2020 Measurements Datasheet

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ORC Club Certificate Appendix

BOAT			
Name	MIA	Certificate Number	111/20
Sail Nr	EST 330	Issued On	07/07/2020

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1061.4	873.5	766.6	716.1	700.8	695.1	685.8
52°	695.3	582.2	530.4	509.5	500.9	496.7	491.2
60°	658.0	556.7	517.2	496.9	484.6	478.7	473.3
75°	607.9	525.2	496.9	481.1	462.1	446.5	434.9
90°	580.3	510.3	478.0	451.1	434.0	421.2	396.6
110°	601.5	516.1	480.8	444.6	410.5	382.4	349.2
120°	635.9	531.5	490.5	453.6	417.1	383.4	329.3
135°	720.5	579.1	513.4	479.4	443.3	406.9	337.0
150°	867.2	685.0	576.0	513.3	481.8	449.1	383.3
Run VMG	1001.4	790.9	665.1	582.5	530.9	496.2	436.6
Selected Courses							
Windward / Leeward	1031.4	832.2	715.8	649.3	615.9	595.7	561.2
Circular Random	854.1	688.9	599.6	546.7	512.8	488.9	454.5
Coastal / Long Distance	1028.4	780.0	645.4	566.9	525.9	491.6	430.5
Non Spinnaker	931.9	743.3	640.3	579.0	540.2	513.7	478.0

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	43.1°	41.3°	40.5°	38.3°	37.5°	37.5°	37.9°
Beat VMG	3.39	4.12	4.70	5.03	5.14	5.18	5.25
52°	5.18	6.18	6.79	7.07	7.19	7.25	7.33
60°	5.47	6.47	6.96	7.24	7.43	7.52	7.61
75°	5.92	6.85	7.25	7.48	7.79	8.06	8.28
90°	6.20	7.05	7.53	7.98	8.30	8.55	9.08
110°	5.98	6.98	7.49	8.10	8.77	9.41	10.31
120°	5.66	6.77	7.34	7.94	8.63	9.39	10.93
135°	5.00	6.22	7.01	7.51	8.12	8.85	10.68
150°	4.15	5.26	6.25	7.01	7.47	8.02	9.39
Run VMG	3.59	4.55	5.41	6.18	6.78	7.25	8.25
Gybe Angles	143.5°	147.0°	148.0°	156.5°	180.0°	180.0°	180.0°